**ENCORE LABOR CATEGORIES**

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**\*\* Program Manager** (Key Personnel)
**1. Task Order Project Manager** (Key Personnel)
2. Quality Assurance Manager
3. Quality Assurance Analyst
4. Project Control Specialist
5. Program Administration Specialist
6. Senior Functional Analyst
7. Functional Analyst
**8. Principal Systems Architect** (Key Personnel)
9. Senior Systems Architect
**10. Principal Information Engineer** (Key Personnel)
11. Senior Information Engineer
12. Senior Computer Systems Analyst
13. Computer Systems Analyst
14. Junior Computer Systems Analyst
15. Senior Application Engineer
16. Applications Engineer
17. Application Programmer
18. Junior Application Programmer
19. Student Application Programmer
20. Senior Database Management Specialist
21. Database Management Specialist
22. Data Entry Clerk
23. Operations Manager
24. System Administrator
25. System Operator
26. Senior Training Specialist
27. Training Specialist
28. Help Desk Manager
29. Help Desk Specialist
30. Hardware Specialist
31. Senior Hardware Install Technician
32. Hardware Install Technician
33. Hardware Draftsman
34. Senior Network Installation Technician
35. Network Installation Technician
36. Network Draftsman
37. Communications Network Manager
38. Communications Specialist
**39. Principal Business Process Reengineering Specialist** (Key Personnel)
40. Senior Business Process Reengineering Specialist
41. Cost Analyst
42. Data Standardization Specialist
43. Documentation Specialist
44. Technical Writer/Editor
45. Senior Computer Security Systems Specialist
46. Computer Security Systems Specialist
47. Administrative Support and Graphic Specialist
48. Electronic Meeting Technographer
49. Senior Information Technology Expert
50. Software Systems Engineer (Lead)
51. Software Systems Engineer (Intermediate)

52. Web Architect
53. Web Designer
54. Senior Business Case Analyst
55. Business Case Analysis Specialist
56. Data Communications Manager
57. Voice Communications Manager
58. Information Technology Senior Consultant
59. Information Technology Consultant
60. Test Engineer (Senior)
61. Test Engineer (Intermediate)
62. Test Engineer (Associate)
63. Configuration Management Specialist (Lead)
64. Configuration Management Specialist (Intermediate)
65. Configuration Management Specialist (Associate)

**ENCORE LABOR CATEGORIES**

**Program Manager (Key Personnel).** Serves as the contractor's single contract manager and shall be the contractor's authorized interface with the Government Contracting Officer (KO), Government management personnel and customer agency representatives. Responsible for formulating and enforcing work standards, assigning contractor schedules, reviewing work discrepancies, supervising contractor personnel and communicating policies, purposes, and goals of the organization to subordinates. The Program Manager is responsible for overall contract performance and shall not serve in any other capacity under this contract. See Section B.2.e(2), Program Management Support Costs.

**1. Task Order Project Manager (Key Personnel).** Serves as the project manager for a large, complex task order (or a group of task orders affecting the same common/standard/migration system) and shall assist the Program Manager in working with the Government Contracting Officer (KO), the task order-level TMs, Government management personnel and customer agency representatives. Under the guidance of the Program Manager, responsible for the overall management of the specific task order(s) and insuring that the technical solutions and schedules in the task order are implemented in a timely manner. Performs enterprise wide horizontal integration planning and interfaces to other functional systems.

**2. Quality Assurance Manager.** Establishes and maintains a process for evaluating software and associated documentation. Determines the resources required for quality control. Maintains the level of quality throughout the software life cycle. Conducts formal and informal reviews at pre-determined points throughout the development life cycle. Provides daily supervision and direction to support staff.

**3. Quality Assurance Analyst.** Provides technical and administrative direction for personnel performing software development tasks, including the review of work products for correctness, adherence to the design concept and to user standards, review of program documentation to assure Government standards/requirements are adhered to, and for progress in accordance with schedules. Coordinates with the Project Manager and/or Quality Assurance Manager to ensure problem solution and user satisfaction. Makes recommendations, if needed, for approval of major systems installations. Prepares milestone status reports and deliveries/presentations on the system concept to colleagues, subordinates and end user representatives.

**4. Project Control Specialist.** Directs all financial management and administrative activities, such as budgeting, manpower and resource planning, and financial reporting. Performs complex evaluations of existing procedures, processes, techniques, models, and/or systems related to management problems or contractual issues which would require a report and recommend solutions. Develops work breakdown structures, prepare charts, tables, graphs and diagrams to assist in analyzing problems. Provides daily supervision and direction to staff.

**5. Program Administration Specialist.** Assists in the preparation of management plans and reports. Coordinates schedules to facilitate completion of proposals, contract deliverables, task order review, briefings/presentations and IPR preparation. Performs analysis, development and review of program administrative operating procedures.

**6. Senior Functional Analyst.** Analyze user needs to determine functional and cross-functional requirements. Performs functional allocation to identify required tasks and their interrelationships. Identifies resources required for each task. Provides daily supervision and direction to support staff.

**7. Functional Analyst.** Analyze user needs to determine functional and cross-functional requirements. Performs functional allocation to identify required tasks and their interrelationships. Identifies resources required for each task.

**8. Principal Systems Architect (Key Personnel).** Establishes system information requirements using analysis of the information engineer(s) in the development of enterprise-wide or large-scale information systems. Designs architecture to include the software, hardware, and communications to support the total requirements as well as provide for present and future cross-functional requirements and interfaces. Ensures these systems are compatible and in compliance with the standards for open systems architectures, the Open Systems Interconnection (OSI) and Interna-

tional Standards Organization (ISO) reference models, and profiles of standards - such as Institute of Electrical and Electronic Engineers (IEEE) Open Systems Environment (OSE) reference model - as they apply to the implementation and specification of Information Management (IM) solution of the application platform, across the application program interface (API), and the external environment/software application. Ensures that the common operating environment is compliant. Evaluates analytically and systematically problems of work flows, organization and planning and develops appropriate corrective action. Provides daily supervision and direction to staff.

**9. Senior Systems Architect.** Establishes system information requirements using analysis of the information engineer(s) in the development of enterprise-wide or large-scale information systems. Designs architecture to include the software, hardware, and communications to support the total requirements as well as provide for present and future cross-functional requirements and interfaces. Ensures these systems are compatible and in compliance with the standards for open systems architectures, the Open Systems Interconnection (OSI) and International Standards Organization (ISO) reference models, and profiles of standards - such as Institute of Electrical and Electronic Engineers (IEEE) Open Systems Environment (OSE) reference model - as they apply to the implementation and specification of Information Management (IM) solution of the application platform, across the application program interface (API), and the external environment/software application. Ensures that the common operating environment is compliant. Evaluates analytically and systematically problems of work flows, organization and planning and develops appropriate corrective action. Provides daily supervision and direction to staff.

**10  Principal Information Engineer (Key Personnel).** Applies an enterprise-wide set of disciplines for the planning, analysis, design and construction of information systems on an enterprise-wide basis or across a major sector of the enterprise. Develops analytical and computational techniques and methodology for problem solutions. Performs enterprise wide strategic systems planning, business information planning, business and analysis. Performs process and data modeling in support of the planning and analysis efforts using both manual and automated tools; such as Integrated Computer-Aided Software Engineering (I-CASE) tools. Applies reverse engineering and re-engineering disciplines to develop migration strategic and planning documents. Has experience with such methodologies as IDEF 0 process modeling and IDEF 1x data modeling. Provides technical guidance in software engineering techniques and automated support tools.

**11. Senior Information Engineer.** Applies business process improvement practices to reengineer methodologies/principles and business process modernization projects. Applies, as appropriate, activity and data modeling, transaction flow analysis, internal control and risk analysis and modern business methods and performance measurement techniques. Assist in establishing standards for information systems procedures. Develops and applies organization-wide information models for use in designing and building integrated, shared software and database management systems. Constructs sound, logical business improvement opportunities consistent with corporate Information Management guiding principles, cost savings, and open system architecture objectives. Provides daily supervision and direction to staff.

**12. Senior Computer Systems Analyst.** Provides technical and administrative direction for personnel performing software development tasks, including the review of work products for correctness, adherence to the design concept and to user standards, and for progress in accordance with schedules. Coordinates with the Project and/or Program Manager to ensure problem solution and user satisfaction. Makes recommendations, if needed, for approval of major systems installations. Prepares milestone status reports and deliveries/presentations on the system concept to colleagues, subordinates, and end user representatives. Provides daily supervision and direction to support staff.

**13. Computer Systems Analyst.** Analyzes and develops computer software possessing a wide range of capabilities, including numerous engineering, business and records management functions. Develops plans for automated information systems from project inception to conclusion. Analyzes user interfaces, maintain hardware and software performance tuning, analyze workload and computer usage, maintain interfaces with outside systems, analyze downtimes, analyze proposed system modifications, upgrades and new COTS. Analyzes the problem and the information to be processed. Defines the problem, and develops system requirements and program specifications, from which programmers prepare detailed flow charts, programs, and tests. Coordinates closely with programmers to ensure proper implementation of program and system specifications. Develops, in conjunction with functional users, system alternative solutions.

**14. Junior Computer Systems Analyst.** Analyzes information requirements. Evaluates analytically and systematically problems of workflows, organization, and planning and assists Senior Computer Systems Analyst and Computer Systems Analyst develop appropriate corrective action. Help develop plans for automated information systems from project inception to conclusion. Defines the problem, and develops system requirements and program specifications, from which programmers prepare detailed flow charts, programs and tests. Under the supervision of a Senior Computer Systems Analyst or a Computer Systems Analyst coordinates closely with programmers to ensure proper implementation of program and system specifications. Develops, in conjunction with functional users, system alternative solutions.

**15. Senior Application Engineer.** Analyzes and studies complex system requirements. Designs software tools and subsystems to support software reuse and domain analyses and manages their implementation. Manages software development and support using formal specifications, data flow diagrams, other accepted design techniques and Computer-Aided Software Engineering (CASE) tools. Estimates software development costs and schedule. Reviews existing programs and assists in making refinements, reducing operating time and improving current techniques. Supervises software configuration management.

**16. Applications Engineer.** Analyzes functional business applications and design specifications for functional activities. Develops block diagrams and logic flow charts. Translates detailed design into computer software. Tests, debugs and refines the computer software to produce the required product. Prepares required documentation, including both program-level and user-level documentation. Enhances software to reduce operating time or improve efficiency. Provides technical direction to programmers to ensure program deadlines are met.

**17. Applications Programmer.** Analyzes functional business applications and design specifications for functional activities. Develops block diagrams and logic flow charts. Translates detailed design into computer software. Tests, debugs and refines the computer software to produce the required product. Prepares required documentation, including both program-level and user-level documentation. Enhances software to reduce operating time or improve efficiency. Provides technical direction to programmers to ensure program deadlines are met.

**18. Junior Application Programmer.** Participates in the design of software tools and subsystems to support reuse and domain analysis. Assists Applications Engineer and Applications Programmer to interpret software requirements and design specifications to code and integrate and test software components.

**19. Student Application Programmer.** Assists with the analysis of information requirements. Aids in the evaluation of problems with workflow, organization, and planning and helps develop appropriate corrective action.

**20. Senior Database Management Specialist.** Manages the development of database projects. Plans and budgets staff and data base resources. When necessary, reallocates resources to maximize benefits. Prepares and delivers presentations on database management systems (DBMS) concepts. Provides daily supervision and direction to support staff.

**21 Database Management Specialist.** Provides highly technical expertise in the use of DBMS. Evaluates and recommends available DBMS products to support validated user requirements. Defines file organization, indexing methods and security procedures for specific user applications.

**22. Data Entry Clerk.** Performs data entry via on-line data terminal, key-to-tape, key-to-disk, or similar device. Verifies data entered, where applicable.

**23. Operations Manager.** Manages computer operations. Ensures production schedules are met. Ensures computer system resources are used effectively. Coordinates the resolution of production-related problems. Ensures proper relationships are established between customers, teaming partners and vendors to facilitate the delivery of information technology services. Provides users with computer output. Supervises staff operations

**24. System Administrator.** Supervises and manages the daily activities of configuration and operation of business systems which may be mainframe, mini, or client/server based. Optimizes system operation and resource utilization,

and performs system capacity analysis and planning.  Provides assistance to users in accessing and using business systems.

**25.  System Operator.**  Monitors and supports computer processing.  Coordinates input, output and file media.  Distributes output and controls computer operation which may be mainframe, mini, or client/server based.

**26.  Senior Training Specialist.**  Conducts the research necessary to develop and revise training courses and prepares appropriate training catalogs.  Develops all instructor materials (course outline, background material, and training aids).  Develops all student materials (course manuals, workbooks, handouts, completion certificates, and course critique forms).  Trains personnel by conducting formal classroom courses, workshops, seminars and/or computer based/computer aided training.  Provides daily supervision and direction to staff.

**27.  Training Specialist.**  Conducts the research necessary to develop and revise training courses.  Develops and revises these courses and prepares appropriate training catalogs.  Prepares instructor materials (course outline, background material, and training aids).  Prepares student materials (course manuals, workbooks, handouts, completion certificates, and course critique forms).  Trains personnel by conducting formal classroom courses, workshops and seminars.

**28.  Help Desk Manager.**  Provides daily supervision and direction to staff who are responsible for phone and in-person support to users in the areas of e-mail, directories, standard Windows desktop applications and applications developed or deployed under this contract.  These personnel serve as the first point of contact for troubleshooting hardware/software PC and printer problems.

**29.  Help Desk Specialist.**  Provides phone and in-person support to users in the areas of e-mail, directories, standard Windows desktop applications, and applications developed under this contract or predecessors.  Serves as the initial point of contact for troubleshooting hardware/software PC and printer problems.

**30.  Hardware Specialist.**  Reviews computer systems in terms of machine capabilities and man-machine interface.  Prepares reports and studies concerning hardware.  Prepares functional requirements and specifications for hardware acquisitions.  Ensures that problems have been properly identified and solutions will satisfy the user's requirements.

**31.  Senior Hardware Installation Technician.**  Organizes and directs hardware installations on site surveys.  Assesses and documents current site network configuration and user requirements.  Designs and optimizes network topologies.  Analyzes and develops new hardware requirements and prepares specifications for hardware acquisitions.  Directs and leads preparation of engineering plans and site installation technical design packages.  Develops hardware installation schedules.  Mobilizes installation team.  Directs and leads preparation of drawings documenting configuration changes at each site.  Prepares site installation and test reports.  Coordinates post installation operations and maintenance support.

**32.  Hardware Installation Technician.**  Conducts sites surveys; assesses and documents current site network configuration and user requirements.  Designs and optimize network topologies.  Analyzes existing requirements and prepares specifications for hardware acquisitions. Prepares engineering plans and site installation Technical Design Packages.  Develops hardware installation schedules.  Prepares drawings documenting configuration changes at each site.  Prepares site installation and test reports.  Configures computers, communications devices and peripheral equipment.  Installs network hardware.  Trains site personnel in proper use of hardware.  Builds specialized interconnecting cables.

**33.  Hardware Draftsman.**  Develops engineering drawings using computer-based drawing packages (e.g., Aptitude, AutoCAD, etc.).  Develops engineering drawings for site plans, electrical interconnects and mechanical plans for specialized hardware.

**34.  Senior Network Installation Technician.**  Organizes and directs network installations on site surveys.  Assesses and documents current site network configuration and user requirements.  Designs and optimizes network topologies.  Directs and leads preparation of engineering plans and site installation Technical Design Packages.  De-

velops installation schedules. Mobilizes network installation team. Directs and leads preparation of drawings documenting configuration changes at each site. Prepares site installation and test reports. Coordinates post installation operations and maintenance support.

**35. Network Installation Technician.** Conducts site surveys. Assesses and documents current site network configuration and user requirements. Designs and optimizes network topologies. Follows engineering plans and site installation Technical Design Packages. Develops installation schedules. Works with network installation team. Assists in the preparation of drawing and documenting configuration changes at each site. Prepares site installation and test reports.

**36. Network Draftsman.** Develops engineering drawings using computer-based drawing packages (e.g., Aptitude, AutoCAD, etc.). Develops engineering drawings for site plans, network configuration and design.

**37. Communications Network Manager.** Evaluates communication hardware and software, troubleshoots LAN/MAN/WAN and other network related problems, provides technical expertise for performance and configuration of networks. Performs general LAN/MAN/WAN administration, provides technical leadership in the integration and test of complex large-scale computer integrated networks. Schedules conversions and cut-overs. Oversees network control center. Supervises maintenance of systems. Coordinates with all responsible users and sites. Supervises staff.

**38. Communications Specialist.** Analyzes network characteristics (e.g., traffic, connect time, transmission speeds, packet sizes and throughput) and recommends procurement, removals and modifications to network components. Designs and optimizes network topologies and site configurations. Plans installations, transitions and cut-overs of network components and capabilities. Coordinates requirements with users and suppliers.

**39. Principal Business Process Reengineering Specialist (Key Personnel).** Applies process improvement and reengineering methodologies and principles to conduct process modernization projects. Responsible for effective transitioning of existing project teams and the facilitation of project teams in the accomplishment of project activities and objectives. Provides group facilitation, interviewing, training, and provides additional forms of knowledge transfer. Key coordinator between multiple project teams to ensure enterprise-wide integration of reengineering efforts. Provides daily supervision and direction to Business Process Reengineering Specialist.

**40. Senior Business Process Reengineering Specialist.** Applies process improvement and reengineering methodologies and principles to conduct process modernization projects. Duties include activity and data modeling, developing modern business methods, identifying best practices and creating and assessing performance measurements. Provides group facilitation, interviewing, training and provides additional forms of knowledge transfer. May be under the supervision and direction of a Principal Business Process Reengineering Specialist or may work independently.

**41. Cost Analyst.** Performs Functional Economic Analysis (FEA) to evaluate the costs of alternative ways to accomplish functional objectives. The FEA states investment costs, benefits and risks as a net change to the functional baseline cost, the cost of doing business now and in the future. Ensures that cross-functional, security and other integration issues are addressed.

**42. Data Standardization Specialist.** Provides technical support in the evaluation of prime object names, data elements and other objects. Evaluated proposed objects and their attributes. Ensures that proposed object definitions are clear, concise, technically correct and that they represent singular concepts. Ensures that the values of object attributes and domains are accurate and correct. Ensures that the proposed objects are consistent with data and process models.

**43. Documentation Specialist.** Gathers, analyzes and composes technical information. Conducts research and ensures the use of proper technical terminology. Translates technical information into clear, readable documents to be used by technical and non-technical personnel.

**44. Technical Writer/Editor.** Assists in collecting and organizing information required for preparation of user's manuals, training materials, installation guides, proposals, and reports. Edits functional descriptions, system specifications, user's manuals, special reports, or any other customer deliverables and documents.

**45. Senior Computer Security Systems Specialist.** Analyzes and defines security requirements for Multilevel Security (MLS) issues. Designs, develops, engineers and implements solutions to MLS requirements. Responsible for the implementation and development of the MLS. Gathers and organizes technical information about an organization's mission goals and needs, existing security products, and ongoing programs in the MLS arena. Performs risk analyses which also includes risk assessment. Provides daily supervision and direction to staff.

**46. Computer Security Systems Specialist.** Analyzes and defines security requirements for Multilevel Security (MLS) issues. Designs, develops, engineers and implements solutions to MLS requirements. Gathers and organizes technical information about an organization's mission goals and needs, existing security products and ongoing programs in the MLS arena. Performs risk analyses which also includes risk assessment.

**47. Administrative Support and Graphics Specialist.** Directly supports Program Manager or Project Manager by maintaining personnel and other files; prepares correspondence, schedules and coordinates travel. Assists in the preparation of presentation graphics and supports the development of contract deliverables and reports by developing and updating graphic presentations to improve the quality and enhance the usability of these documents. Responsible for integrating the graphics generated with automated tools and the deliverable documents.

**48. Electronic Meeting Technographer.** Supports the meeting facilitator or Data Modeler in preparing and conducting meetings, and in meeting follow-up activities. Manipulates on-line electronic meeting software, such as GroupSystems V, for Business Reengineering or Process Improvement sessions. Responsible for the cataloging, maintenance and distribution of customer session data files.

**49. Senior Information Technology Expert.** Performs the following duties:

a. Reengineering. Serves as a Management Information System (MIS) manager. Designs, develops and manages implementation of risk assessment and business contingency planning framework, methodology and tools to ensure business continuity of operations across a large, multi-division, decentralized organization. Supports multi-language, multi-platform and multi-operating system operations and utilizes electronic commerce and Electronic Data Interchange (EDI) applications.

b. Emerging Technologies. Recognizes and recommends new or emerging technology or software to satisfy functional requirements and processes. Provides highly technical and/or specialized guidance concerning automation solutions to complex information processing problems related to the subject field. Provides customer support using enterprise solutions software to integrate business areas, consistent with today's technology in order to operate in an open systems environment and client service architectures.

c. Computer Engineering. Analyzes data processing requirements to plan EDP systems to provide system capabilities required for projected workloads. Plans layout and installation of new systems or modification of existing systems. May set up and control analog or hybrid computer systems to solve scientific and engineering problems. Knowledgeable in Oracle, Windows NT, network administration, project management and Unix and Cobol programming.

d. Internet Development/Integration. Develops applications that take advantage of Internet protocols and platforms. Internet developers extend beyond traditional software development disciplines to demonstrate advanced graphical design abilities, familiarity with new media formats, and solid understanding of Internet communications protocols and services. They deploy new applications that utilize Internet standards to enable wide access from the diverse client types found throughout the public Internet.

e. <u>Networking</u>. Integrates the following network infrastructure components:

- Routers
- Switches
- Routed Networks
- Frame Relay
- Static and Dynamic Routes Configuration
- Token Ring Topology
- Ethernet Topology
- CISCO
- 3COM
- Network Troubleshooting
- Network Polling
- Network Discovery

**50. Software Systems Engineer (Lead).** Formulates and defines specifications for operating system applications or modifies and maintains existing applications using engineering releases and utilities from the manufacturer. Responsible for program design, coding, testing, debugging and documentation. Responsible for applications dealing with the overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting and advanced mathematical/scientific software packages. Instructs, directs, and checks the work of other task personnel. Responsible for quality assurance review and the evaluation of existing and new software products.

**51. Software Systems Engineer (Intermediate).** Works from specifications to develop or modify operating systems applications. Assists with design, coding, benchmark testing, debugging and documentation of programs. Applications generally dealing with utility programs, job control language, macros, subroutines and other control modules. Works on most phases of software systems programming applications, and may require instruction and guidance in other phases.

**52. Web Architect.** Designs and builds web sites using a variety of graphics software applications, techniques, and tools. Designs and develops user interface features, site animation, and special effects elements. Contributes to the design group's efforts to enhance the look and feel of the organization's on-line offerings. Designs the website to support the organization's strategies and goals relative to external communications.

**53. Web Designer.** Designs, develops, troubleshoots, debugs, and implements software code (such as HTML, CGI and Javascript) for components of the website. Works with graphic designers and other members of a project team to develop the site concept, interface design, and architecture of the website. Responsible for interface implementation. Requires strong navigation and site design instincts.

**54. Senior Business Case Analyst.** Develops formulas for calculating existing and future costs, researches current financial indices, develops details of actual cost of IT system using standard quantitative analyses. Develops and documents assumptions. Prepares investment analysis reports.

**55. Business Case Analysis Specialist.** Identifies costs for existing IT systems (maintenance, operations, etc). Identifies life cycle costs for proposed IT systems (development, operations, maintenance). Identifies cost savings/cost avoidance associated with retirement of old system or improved performance of new system. Provides briefings on analyses conducted.

**56. Data Communications Manager.** Ensures that adequate and appropriate planning is provided for remote hardware and communications facilities to develop and implement methodologies for analysis, installation and support of distributed processing client/server systems. Provides coordination in the analysis, acquisition and installation of hardware, software and facilities. Manages the training and efforts of a staff engaged in systems and network planning, analysis and monitoring activities.

**57. Voice Communications Manager.** Ensures that adequate and appropriate planning is provided for remote

hardware and communications facilities to develop and implement methodologies for analysis, installation and support of voice communications systems. Provides coordination in the analysis, acquisition and installation of remote hardware and software. Interfaces with internal/external customers and vendors to determine system needs. Manages the training and efforts of a staff responsible for system and network planning and analysis activities. May include billing/charge-back responsibilities.

**58. Information Technology Senior Consultant.** The senior IT consultant manages the project work as defined by the client contract. Leads medium to large complex projects and major phases of very large projects. The senior consultant also manages the fact-finding, analysis and development of hypothesis/conclusions, production of final reports and delivery of presentations. Responsible for ensuring that the project delivers to client expectations on time and to budget.

**59. Information Technology Consultant.** Leads major portions of large or medium projects, and leads small projects autonomously. Gathers facts through research, interviewing, surveys, etc. analyzes the client's business, draws conclusions, prepares final reports and gives presentations. Uses in-depth consultative skills and business knowledge to practice business objectives and processes.

**60. Test Engineer (Senior).** Subject matter expert providing testing expertise for support of user requirements of complex to highly complex software/hardware applications. Directs and/or participates in all phases of risk management assessments and software/hardware development with emphasis on analysis of user requirements, test design and test tools selection. Responsible for ensuring that the test design and documentation support all applicable client, agency or industry standards time lines and budgets. Responsible for ensuring that testing conclusions and recommendations are fully supported by test results, and project managers are fully informed of testing status and application deviations from documented user requirements.

**61. Test Engineer (Intermediate).** Performs analysis of documented user requirements and directs or assists in the design of test plans in support of user requirements for moderately complex to complex software/hardware applications. Reviews user application system requirements documentation; designs, defines and documents unit and application test plans; transforms test plans into test scripts and executes those scripts. May participate in all phases of risk management assessment and software/hardware development under the direction of a Senior Test Engineer. Responsible for ensuring proper execution of test scripts and documentation of test results in test logs or defect tracking systems. Responsible for ensuring that the test designs and documentation support all applicable client, agency or industry standards, time lines and budgets. Responsible for the development of test data to be used in performing the required tests. Responsible that testing conclusions and recommendations are fully supported by test results, and those project managers are fully informed or testing status and application deviations from documented user requirements. Responsible for/or assists in the analysis of test results, documents conclusions and makes recommendations as supported by such analysis.

**62. Test Engineer (Associate).** Performs formal system testing activities for a particular project or subset of a larger project under supervision of more experienced test personnel. May participate in support of user requirements for simple to moderately complex software/hardware applications under the direction of a Senior Test Engineer. Executes defined test cases and procedures as detailed in the test documentation. Assists with the collection of data and technical information used in the development of test documentation. Assists in the development of test data to be used in performing required tests. Responsible for documentation of test results in the proper logs and/or tracking systems. Participates in selected phases of risk management assessment and software/hardware development under the direction of more experienced personnel. May participate in the development of test scripts and is responsible for ensuring proper execution of those test scripts. Under the direction of more experienced personnel, may be responsible for ensuring that test designs and documentation supports selected client, agency or industry standards and time lines. Responsible for ensuring that testing conclusions and recommendations are supported by test results. Responsible for or assists in the analysis of test results and documents conclusions.

**63. Configuration Management Specialist (Lead).** Responsible for configuration management planning. Describes provisions for configuration identification, change control, configuration status accounting and configuration audits. Responsible for configuration planning. Identifies and maintains the original configuration of requirements

documentation, design documentation, software and related documentation. Responsible for configuration change control. Regulates the change process so that only approved and validated changes are incorporated into product documents and related software. Responsible for configuration status accounting. Tracks all problems and changes in product documents and software and reports changes and current configuration. Responsible for configuration audits. Supports audits to verify that requirements of all baselines have been met by the as-built software. Supports software quality assurance process audits.

**64. Configuration Management Specialist (Intermediate).** Responsible for configuration management planning. Describes provisions for configuration identification, change control, configuration status accounting and configuration audits. Responsible for configuration planning. Identifies and maintains the original configuration of requirements documentation, design documentation, software, and related documentation. Responsible for configuration change control. Regulates the change process so that only approved and validated changes are incorporated into product documents and related software. Responsible for configuration status accounting. Tracks all problems and changes in product documents and software and reports changes and current configuration. Responsible for configuration audits. Supports audits to verify that requirements of all baselines have been met by the as-built software. Supports software quality assurance process audits.

**65. Configuration Management Specialist (Associate).** Supports configuration management planning. Describes provisions for configuration identification, change control, configuration status accounting and configuration audits. Supports configuration planning. Identifies and maintains the original configuration of requirements documentation, design documentation, software, and related documentation. Responsible for configuration change control. Supports the change process so that only approved and validated changes are incorporated into product documents and related software. Responsible for configuration status accounting. Tracks all problems and changes in product documents and software and reports changes and current configuration. Responsible for configuration audits. Supports audits to verify that requirements of all baselines have been met by the as-built software. Supports the software quality assurance process audits.